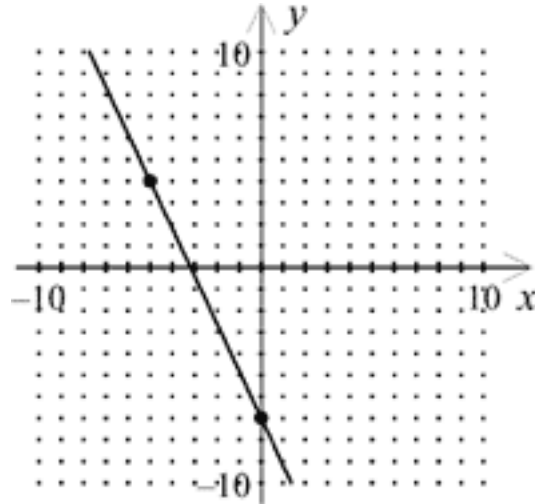


Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Chapter 5 Test

1. Write an equation, in slope-intercept form, of a line with a slope  $-3$  and a  $y$ -intercept of  $1$ .
2. Write an equation of the line with slope  $-\frac{1}{3}$  and  $y$ -intercept  $-3$ .
3. Erik pays \$225 in advance on his account at the athletic club. Each time he uses the club, \$9 is deducted from the account. Write a linear function that gives the value remaining in his account after  $x$  visits to the club. Find the value remaining in the account after 7 visits.

4. Write an equation in slope-intercept form of the line shown.

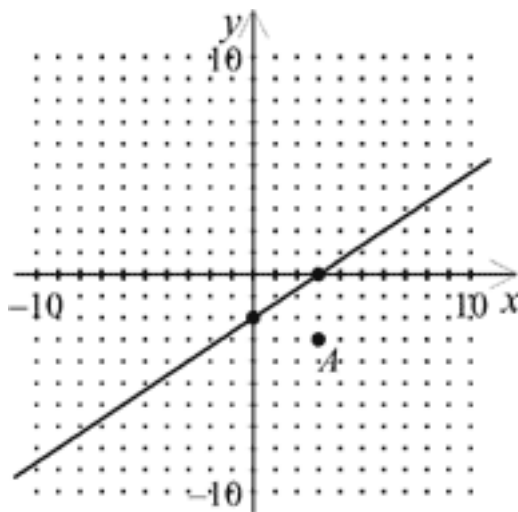


5. Find the  $y$ -intercept of a line that passes through  $(-2, -1)$  and has a slope of  $\frac{5}{8}$ .
6. Write an equation of a line with slope  $-2$  passing through the point  $(3, -2)$ .
7. Write the equation in slope-intercept form of the line that passes through the points  $(-3, 5)$  and  $(2, -5)$ .

8. Use the point-slope form to write an equation of the line that passes through the point  $\left(\frac{2}{3}, -\frac{3}{2}\right)$  with a slope of  $-\frac{2}{3}$ .
9. Write a point-slope equation of the line passing through  $(3, -2)$  and  $(2, -1)$ .
10. Graph the equation  $y - 3 = -3(x + 1)$ .
11. Write a point-slope equation of the line passing through  $(-1, 4)$  and  $(1, 2)$ .
12. Write the equation of the line passing through  $(2, -7)$ ,  $(2, 0)$ , and  $(2, 5)$ .
13. Write the equation of the vertical line that passes through the point  $(7, -3)$ .

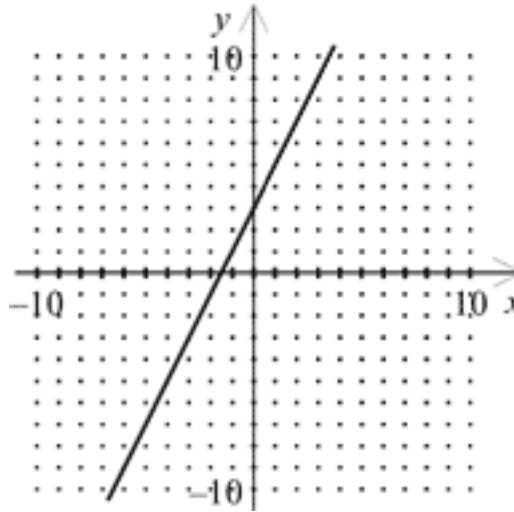
14. A revenue of \$1500 is obtained from the sales of item  $A$  at \$50 each and item  $B$  at \$25 each. Write an equation that shows the relationship between the numbers of items sold.
15. Write the standard form of the equation of the line with slope 4 passing through the point  $(-2, 3)$ .
16. Write an equation of the line that goes through the point  $(5, 3)$  and is parallel to the line  $y = -2x + 2$ .
17. Write an equation of the line that goes through the point  $(-6, 6)$  and is perpendicular to the line  $y = -2x + 2$ .

- \_\_\_\_ 18. Which is the equation of the line that is parallel to the line in the graph and passes through point  $A$ ?



- A.  $y = \frac{3}{2}x - 4$
- B.  $y = -\frac{3}{2}x - 5$
- C.  $y = \frac{2}{3}x - 5$
- D.  $y = -\frac{2}{3}x - 4$

\_\_\_\_ 19. The line  $y = 2x + 3$  is graphed below.

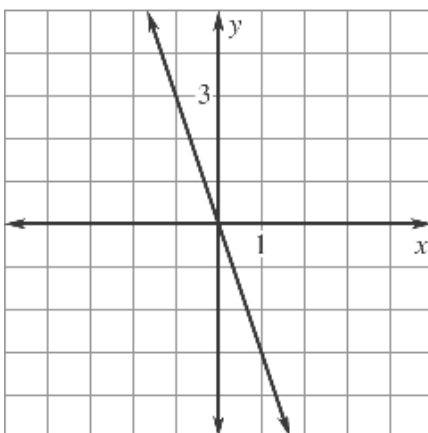


Are the lines  $y = 2x + 3$  and  $2y - 4x = 6$  parallel, perpendicular, neither parallel nor perpendicular, or the same line?

- A. neither parallel nor perpendicular
  - B. parallel
  - C. the same line
  - D. perpendicular
20. Write an equation of the line that goes through the point  $(-10, 6)$  and is parallel to the line  $y = \frac{3}{5}x + 2$ .

## Answer Key

1.  $y = -3x + 1$
2.  $y = -\frac{1}{3}x - 3$
3.  $V(x) = 225 - 9x$ ; \$162
4.  $y = -\frac{11}{5}x - 7$
5.  $\frac{1}{4}$
6.  $y = -2x + 4$
7.  $y = -2x - 1$
8.  $y + \frac{3}{2} = -\frac{2}{3}(x - \frac{2}{3})$
9.  $y + 2 = -(x - 3)$
10. Answer:



11.  $y - 4 = -(x + 1)$
12.  $x = 2$
13.  $x = 7$
14.  $50A + 25B = 1500$
15.  $4x - y = -11$
16.  $y = -2x + 13$
17.  $y = \frac{1}{2}x + 9$
18. **C.**  $y = \frac{2}{3}x - 5$
19. **C.** the same line

20.  $y = \frac{3}{5}x + 12$



## Standards Summary

TX TEKS A.5.C	use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions.
TX TEKS A.6.D	graph and write equations of lines given characteristics such as two points, a point and a slope, or a slope and y-intercept;
TX TEKS A.1.C	describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations;
TX TEKS A.7.A	analyze situations involving linear functions and formulate linear equations or inequalities to solve problems;
NCTM 9-12.PRS.3	Apply and adapt a variety of appropriate strategies to solve problems
NCTM 9-12.REP.2	Select, apply, and translate among mathematical representations to solve problems
TX TEKS A.6.B	interpret the meaning of slope and intercepts in situations using data, symbolic representations, or graphs;
TX TEKS A.6.E	determine the intercepts of the graphs of linear functions and zeros of linear functions from graphs, tables, and algebraic representations;
NCTM 9-12.ALG.1.c	analyze functions of one variable by investigating rates of change, intercepts, zeros, asymptotes, and local and global behavior;
TX TEKS A.7.B	investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities; and